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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,493	09/24/2003	Karl Gong	ROC920010047US2	7994

7590 09/22/2004

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EXAMINER

DAVIDSON, DAN

ART UNIT	PAPER NUMBER
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2651

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/670,493	Applicant(s) GONG ET AL.	
	Examiner Dan I Davidson	Art Unit 2651	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 8-10, 15 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 8, 9, 15, 18 and 19 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 9, 10, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The Examiner notes that the instant application is a Divisional Application that claims the priority of Parent Application Serial No. 09/909,294, filed on July 19, 2001, now US Patent No. 6,683,737.

### ***Claim Objections***

2. Claims 2-3, 9-10, and 19-20 are objected to because of the following informalities:

Re claims 2 and 9, line 2, respectively, and claim 19, line 3, "a magnetic" should be replaced with --the magnetic--.

Re claim 3, line 1, and claims 10 and 20, line 2, respectively, "a position" should be replaced with --the position--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 8-9, 15, and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Smith (US 6,600,622 B1)

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Re claims 1, 8, and 18; Smith discloses a method of predicting head-disk interaction in a magnetic data storage and retrieval system (col. 1, lines 54-62), comprising: detecting a position error signal amplitude indicative of the distance between an expected position of a magnetic head relative to a track centerline and an actual position of the magnetic head relative to the track centerline (Fig. 4, 307); filtering the position error signal amplitude (Fig. 4, 309) to generate a sway mode signal indicative of an oscillation of the actual position of the magnetic head relative to the track centerline in a selected frequency range (Fig. 4, 315; col. 4, lines 51-55; a sway mode signal amplitude is defined in the specification as a signal resulting from a physical head-disk contact at a specific point (i.e. intermittent contact) (see page 10, lines 5-7)); determining an absolute value of the sway mode signal (i.e. determining a sway mode signal magnitude) (inherent that the magnitude of the sway mode signal detected given that the sway mode signal is compared to a threshold); determining whether the sway mode signal amplitude exceeds a threshold value (Fig. 4, 315, 321); and responsive to determining that the sway mode signal amplitude exceeds the threshold value, propagating a warning signal (col. 6, lines 5-6; any signal output from

the comparison of the sway mode signal and the threshold that results in further action satisfies this claim limitation).

Re claims 2, 9, and 19; Smith discloses testing the magnetic data storage and retrieval system to determine a unique sway mode frequency range (col. 4, lines 53-55; tuning the bandpass filter to detect frequencies that correspond to intermittent contact (swaying) by definition would require testing the storage system to determine the frequency range of signals that correspond to intermittent contact); and programming a programmable filter to exclude signals other than those near the unique sway mode frequency (col. 4, lines 53-55; the actual tuning of the bandpass filter).

Re claim 15; Smith discloses an outer housing or base containing a plurality of stacked, parallel magnetic disks, which are closely spaced apart (Fig. 1, 13, 15; col. 2, line 65 – col. 3, line 1); an actuator comprising a plurality of stacked, parallel actuator arm/suspensions in the form of a comb that is pivotally mounted to the base about a pivot assembly (Fig. 1, 21; col. 3, lines 2-4); a controller, mounted to the base, for selectively moving the comb of arm/suspensions relative to disks and monitoring and providing command inputs to the actuator (Fig. 1, 19; col. 3, lines 4-6); and one or more magnetic read/write transducers (Fig. 1, 29).

***Allowable Subject Matter***

5. Claims 3, 10, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The prior art of record, and in particular Smith (US 6,600,622 B1), fails to teach or suggest detecting the position error signal during an idle time function.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ding et al (US 6,690,534 B2) teach compensating for multiple resonance frequencies in a disk drive through generating a plurality of feedforward compensation signals from a position error signal using a plurality of bandpass filters.

Sutardja (US 6,125,154 A) teaches removing noise in PES bursts using a bandpass filter.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan I Davidson whose telephone number is (703) 308-8535. The examiner can normally be reached on Mondays, Tuesdays, and Thursdays. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran, can be reached on (703) 305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

DID  
Dan I Davidson  
September 13, 2004

  
SINH TRAN  
PRIMARY EXAMINER